

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. CERTIFICATE NUMBER: 86-R-0003
CUSTOMER NUMBER: 1044

FORM APPROVED
OMB NO. 0579-0036

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

University Of Arizona
University Animal Care
1501 N. Campbell Ave., Room 1126
Tucson, AZ 85724

Telephone: (520) -626-6702

COPY

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, or experimentation, or held for these purposes. Attach additional sheets if necessary.)

FACILITY LOCATIONS (Sites) - See Attached Listing

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY (Attach additional sheets if necessary or use APHIS Form 7023A)

A. Animals Covered By The Animal Welfare Regulations	B. Number of animal being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals an for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for wh the use of appropriate anesthetic, analgesic, or tranquiliz drugs would have adversely affected the procedures, res or interpretation of the teaching, research, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress in these animals and the reas such drugs were not used must be attached to this report	F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)
4. Dogs		8	7		15
5. Cats		6	7		13
6. Guinea Pigs		143	--		143
7. Hamsters		11	31		42
8. Rabbits		40	158		198
9. Non-human Primates			12		12
10. Sheep			7		7
11. Pigs		25	290	40	355
12. Other Farm Animals					
Cattle			19		19
13. Other Animals					
Squirrels, various sp		177			177
Bats		134			134
Wild mice		110			110

ASSURANCE STATEMENTS

- 1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and following actual research, testing, surgery, or experimentation, were followed by this research facility.
- 2) Each principal investigator has considered alternatives to painful procedures.
- 3) This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In addition to identifying the IACUC-approved exceptions, this summary includes a brief explanation of the exceptions, as well as the species and number of animals affected.
- 4) The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of other aspects of animal care and use.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional Official)

b6, b7c

DATE SIGNED

11/19/05

Column E Explanation

This form is intended as an aid to completing the Column E explanation. It is not an official form and its use is voluntary. Names, addresses, protocols, veterinary care programs, and the like, are not required as part of an explanation. A Column E explanation must be written so as to be understood by lay persons as well as scientists.

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1. Registration Number 86-R-003
2. Number 40 of animals used in this study.
3. Species (common name) Pigs of animals used in the study.
4. Explain the procedure producing pain and/or distress.

There are two research projects, funded by USDA and being conducted by the same research group, with the aims of identifying genes expressed in *Campylobacter jejuni* virulence. While the main thrust of this research is for the hog industry, the results would be applicable to any species, including humans that contract Campylobacteriosis. The studies are evaluating pathogenicity, utilizing various mutants of the organism. The studies should confirm that mutations in genes involved in macrophage survival are directly related to the ability of the isolate to produce lesions in the host.

Newborn piglets are fasted for 6 hours and then inoculated with *Campylobacter jejuni* transformants. Fecal samples are taken before inoculation and during the evaluation period. All piglets are observed daily for clinical signs of campylobacteriosis (diarrhea). Fecal samples are collected daily for the identification of *C. jejuni* DNA by PCR. Depending upon clinical signs and shedding of the microorganism, piglets are euthanized at 9, 48, and 120 hours post-inoculation and necropsied. Small and large intestinal tissue is collected in the vicinity of areas displaying gross lesions for microscopic examination. Any animal that is unable to feed or water itself or unable to rise without aid is immediately euthanized.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results. (For Federally mandated testing, see Item 6 below).

The administration of analgesics, etc, may affect the normal progression of disease and microscopic lesions necessary for diagnosis. It has been shown (Kohn and Muir, 1996) that the use of opioid analgesics, such as methadone, can release histamines, decrease gut motility, etc. NSAIDs inhibit the inflammatory response. Neostigmine and xylazine decrease gut motility (Kohn and Muir, 1988). Gut motility and host inflammatory response are critical to the progression of disease or lack thereof. It would be contradictory to the study to introduce compounds that would effect these factors, whether individually given or in conjunction. The scope of the project is to reproduce disease as seen in the "field" and examine protective measures, not to investigate the effects of various analgesics on establishment of disease. The clinical signs observe—watery/bloody diarrhea, diminished appetite, mild weight loss—are observed in the normal progression of the disease. All moribund animals are immediately euthanized.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9 CFR 113.102):

Agency N/A CFR N/A